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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP  
901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

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| EXAMINER |
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HOFFMANN, JOHN M

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| ART UNIT | PAPER NUMBER |
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1731

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/986,622

Applicant(s)

ROBA ET AL.

Examiner

John Hoffmann

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 31-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 38-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of claim 38 requires that the furnace comprises the support collar, but line 2 indicates that the support collar is merely connected to the furnace. This is confusing as to whether the support collar can be connected to the furnace just because it is connected to itself, or what.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 38-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Claim 41 now requires that the seal height to seal height is less than 2:1. There is no basis for this limitation. Applicant points to page 33 and refers to H2 (i.e. 5.8 mm) as the seat height. Examiner could find no reasonable suggestion in the specification that  $H2 = \text{seat height} = 5.8$ . Rather, lines 8-9 indicates that the seal has a height "from the seat" of 5.8. Thus the seat height is  $10 - 5.8 = 4.2$  mm. It is deemed that "155" is a typo and should be "115". Thus the ratio is  $10/4.2 = 2.4$ .

Applicant is permitted to correct an obvious error only when it is clear as to what exactly the error is.

An amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of error in the specification, but also the appropriate correction. In re Oda, 443 F.2d 1200, 170 USPQ 268 (CCPA 1971).

Moreover, even if there is support for 1.72:1 – such does not give support for the less than 2:1 ratio as presently claimed.

From MPEP 2163.04:

### III. RANGE LIMITATIONS

With respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure. In the decision in In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), the ranges described in the original specification included a range of "25%- 60%" and specific examples of "36%" and "50%." A corresponding new claim limitation to "at least 35%" did not meet the description requirement because the phrase "at least" had no upper limit and caused the claim to read literally on embodiments outside the "25% to 60%" range, however a limitation to "between 35% and 60%" did meet the description requirement.

See also Purdue Pharma L.P. v. Faulding Inc., 230 F.3d 1320, 1328, 56 USPQ2d 1481, 1487 (Fed. Cir. 2000) ("[T]he specification does not clearly disclose to the skilled artisan that the inventors... considered the... ratio to be part of their invention.... There is therefore no force to Purdue's argument that the written description requirement was satisfied because the disclosure revealed a broad invention from which the [later-filed] claims carved out a patentable portion"). Compare Union Oil of Cal. v. Atlantic

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Richfield Co., 208 F.3d 989, 997, 54 USPQ2d 1227, 1232-33 (Fed. Cir. 2000)  
(Description in terms of ranges of chemical properties which work in combination with ranges of other chemical properties to produce an automotive gasoline that reduces emissions was found to provide an adequate written description even though the exact chemical components of each combination were not disclosed and the specification did not disclose any distinct embodiments corresponding to any claim at issue. "[T]he Patent Act and this court's case law require only sufficient description to show one of skill in the art that the inventor possessed the claimed invention at the time of filing.").

Thus, even if applicant has support for the 1.72:1 ratio, such is insufficient to establish the ratio of 2:1. Applicant is apparently picking such as a random point to overcome the prior art references.

Claim 38: Examiner could find no support for the newly claimed feature that the support collar is both part of the draw furnace and is connected to the draw furnace – either explicit or implicit. To one of ordinary skill, if something is connected to the furnace, it is not part of the furnace. Applicant cannot now claim that something is now both part of the furnace and connected to the furnace: unless there was basis in the description as originally filed. Examiner could not find any basis.

This is deemed to be a prima facie showing on failure to comply with the requirement. The burden is now on Applicant to show the requirement is complied with, or to amend the claims so that they comply.

### ***Specification***

The disclosure is objected to because of the following informalities: The specification does not comport the claims.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek 4608473 in view of Harding 4988374, Miller 4678490, and Kazuya JP 08091862 as per Applicant's translation thereof.

See the prior Office action for the manner in which the references were applied.

Only claim 38 has been changed – it is deemed that feature 7 of Harding is a support collar as claimed. It would have been obvious to use such to hold the preform, so that it moves only as it is suppose to move. It is deemed that the support collar is part of the furnace: thus it is connected to itself. Examiner is not aware of any definition of “draw furnace” which excludes the feed mechanism. Regardless it is deemed the broadest reasonable interpretation of “draw furnace” to be any structure involved with drawing a fiber preform.

Claims 31-33 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek 4608473 in view of Harding 4988374, Miller 4678490, and Kazuya JP 08091862 as per Applicant's translation thereof and optionally in view of Willis 3793812

Paek is cited as a typical induction furnace, but it does not disclose a distributor body, the mechanical seal or the "bottom portion".

Figure 3 of Paek is the furnace. 38, 26 and everything in 26 comprise the "furnace body". Middle "62" is the susceptor. 38 is the induction coil. The insulating material is clearly present. Upper 62 is deemed to be muffle. As to the muffle being connected to the upper end: everything is connected to everything – at least indirectly.

As to the mechanical seal and distributor body: Harding is cited as evidence that it is well known to provide structures on tops of furnaces to seal the furnace and to keep preforms clean, by blowing gas at an angle – just like applicant does. See Harding, col. 1, lines 29-45, col. 3, line 24. It would have been obvious to improve the Paek method by using a distributor and seal on the top, so as to keep contaminants away from the preform. It is noted that Harding does not have the tangential feeding that is claimed.

But this tangential feeding is conventional in the art. It is well known in the glass fiber art to provide gases tangentially when supplying gas to an annular manifold – and that such can make the flow velocities through the ports more uniform and even minimize turbulence (as applicant does). See Miller, col. 1, line 33 to col. 2, line 13, as well as figures 3 and 5a. It would have been obvious to feed the Harding gas tangentially so as to make the flow more uniform around the preform – as taught by Miller. It noted that the gas is first received in a direction that does not appear to be tangential, however the vanes/baffle then direct the gas. It is deemed that the inner portion of the chamber receives the gas in a tangential manner. Alternatively, it is

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deemed that feature 32 is part of the wall of the chamber, thus when the gas leaves the section walled off by 32, the air then enters the chamber. It is noted that a chamber is nothingness: it is the empty space between walls. One can designate any space between walls to be a chamber. One can consider 32 to be a wall that defines part of the chamber.

In a still further manner: using Willis. Col. 6, lines 14-21 of Willis discloses that tangential inlets and vanes are mechanical equivalents. It would have been obvious to tangential inlets in place of vanes as taught by Miller, because such is the mere substitute of equivalents that are "self-evident".

An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

As to the decreasing cross-sectional area: Kazuya teaches that using the tapered shape structure (that appears to be the same or nearly the same as Applicant's bottom chimney) decreases fluctuations in the outer diameter of the preform. It would have been obvious to use the Kazuya teaching to improve the Paek method, for the advantages that Kazuya teaches.

Claims 32-33: The angle is not taught in Harding. It would have been obvious to choose one of the angles as a simple matter of design choice, with no new or unexpected results. Alternatively, it would have been obvious to perform routine



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experimentation to find an angle which kept the preform clean as that is the intended purpose.

Claims 38-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek 4608473 in view of Harding 4988374, Miller 4678490, and Kazuya JP 08091862 as applied to claim 34, and further in view of Kaiser 4030901.

Kaiser teaches to use a collar to prevent contamination of the fiber. It would have been obvious to use the Kaiser collar so as to prevent contamination of the fiber.

Claim 41 – Applicant indicates that the Enerseals are conventional (page 32, lines 13-14). It would have been obvious to use an Enerseal for their well established properties. As to the height ratio - the height from the seat to the top: the total height of the seat is less than 2 because it cannot be larger than one. The height of each wall must be no larger than the total height.

Claim 42: it is clear that some angle is better than no angle. Thus the angle is a result-effective variable. It would have been obvious to perform routine experimentation to determine the optimal angle. Claim 42 is interpreted as requiring a single angle that is between 12 degrees and 16 degrees. And not a single angle that includes both 12 degrees and 16 degrees and all angles there between.

Claim 43 would have been obvious depending upon the size of the preform and the final diameter that is drawn.

Claim 44: see feature 16A of Harding.

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Claim 45: It is clear that temperature is an important feature – in particular see Harding which shows deposits on the lower wall – and how temperature plays a role in that (paragraph spanning cols. 3-4). It would have been obvious to provide a cooling/heating jacket so as to permit one to control as one sees fit.

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paek 4608473 in view of Harding 4988374, Miller 4678490, and Kazuya JP 08091862 as applied to claim 42, and further in view of Koaizawa 5897682.

(This rejection is an alternative and/or additional rejection of claim 45)

It is well known to supply cooling jackets so as to cool the fiber as quickly as possible so that one can increase the line speed. See Koaizawa. It would have been obvious to add a cooling jacket at the lower end as taught by Koaizawa, so that one can increase the line speed.

Claims 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paek, Harding, Miller, and Kazuya and Willis as applied to claim 31 above, and further in view of Uhm EP 0867412.

As discussed in previous actions, Uhm discloses rigid graphite to be a superior insulation material in the induction furnace art. It would have been obvious to improve the Paek furnace, by using the Uhm insulation material. See how the rest of the claims are met as discussed in the prior Office action.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

It is argued that 62 of Paek cannot be a muffle, because it is a susceptor. Examiner does not understand this; they are not mutually exclusive. Whether or not a tube is a muffle is an intended use.

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Applicant has not given any explanation as to why the Paek susceptor cannot be a muffle. Substantially any tube can be a muffle.

It is further argued that since claim 31 requires that the muffle is connected to the upper end of said furnace body, that the muffle cannot be within the furnace body. This is not understood: the claim does NOT require the muffle being above the furnace body. A stovepipe can be connected to the top of a house (i.e. the roof) and still be within the house. It is clear that the Paek muffle would be connected to everything else in the furnace (including the top) – either directly or indirectly – mechanically or electrically.

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It is argued that Kaiser cannot be combined with any reference to reject claim 31. This appears to be irrelevant – no teaching in Kaiser is used to reject claim 31.

It is argued that the rejection has not stated a ground for the rejection of claims 34-35. The rejection points out that the claims are rejected in view of Paek, Harding, Miller and Kazuya. The rejection also points out the basis for the bottom portion, distributor body, muffler and furnace body. The rejection also points out that claims 34-35 are clearly met. Applicant has not disagreed with the Office's statement that claims 34-35 are clearly met; thus it is deemed that Applicant concurs that such are clearly met. It is accurate to say that claims 34-35 were clearly met by the combination of references; claim 34 is substantially the same as claim 31 and thus it would not be productive to copy the same text of the rejection. As to claim 35: Miller clearly shows the ductwork see figures 5A and 3 that leads from the source of gas to the chamber and is tangentially disposed. As Applicant points out - MPEP 2141 Examiner must explain with reasonable specificity at least one rejection. Examiner has done that with claim 31. It is not a reasonable use of the Office's resources to explain every single detail – especially when such are so self evident (such as claims 34-35) – and further since Applicant can call/write/request Examiner to ask for a more detailed explanation if such is not clear to Applicant.

The other arguments regarding claim 34 are not convincing – for the same reasons they were not convincing when directed to claim 31.

Regarding claim 36, it is noted that Applicant traverses the rejection, but it isn't exactly clear as to what error Examiner supposedly made. Official Notice was properly

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taken – Applicant did not disagree with such. Therefore it is deemed that Applicant agrees with the Official Notice as fact. As to the motivation, Applicant's statements appear to be accurate, but the relevance is not understood. The rejection points out other reasons for modifying the prior art. The Office need not establish the same motivation that Applicant had.

As to an outlet as nothingness:

From Ex Parte Davin (1902) 100 OG 452: An opening is not a tangible thing. It can exist only in connection with some other element. If it is desired to describe this element as provided with an opening, there is no objection to such a course. See also Ex Parte KRAFT 46 USPQ 561 (1940).

It is argued that Millers fins are not located in the outlet port 20. This is irrelevant because the rejection is not based on such. Rather, applicant's claimed "outlet" is of such a broad scope that it encompasses the space other than the specific outlet 20. As pointed out in the rejection, one can consider that the outlets of Miller extend all the way to the vanes.

It is further argued that Examiner failed to support the taking of Official Notice regarding claim 37. Examiner is not required to provide support for Official Notice unless such is properly traversed by Applicant. And since Applicant has not properly traversed the Official Notice, such is deemed to now be admitted prior art.

It is further argued that holding chuck is not connected to the drawing furnace but instead moves independently of the furnace. See the rejection for the manner in which the art is applied. The claim does not preclude the collar from moving

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independently as applicant suggests; or applicant has not pointed out how the claim language excludes movable collars.

IT is argued that Kaiser does not teach that rubber ring holds the preform in place. This is irrelevant because such is not required. If such would be required, the claim would not be enabled – the preform must be able to move for the invention to work. To the degree that the claims require an intended use of limiting movement:

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

It is quite clear that Kaiser could meet all limitations in the same manner that Applicant's invention does.

The arguments regarding claim 41 defining over the prior art seem to be accurate. Nevertheless, the relevant claims are not deemed allowed because of the outstanding 112 rejections. Therefore the previous rejection of claims 41-45 are not presently withdrawn. It is deemed that if Applicant can show that there is support for claims 41-45 as now claimed, the prior art rejection will be dropped.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John Hoffmann

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Primary Examiner  
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jmh